

The TECHNOCRAT

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The TECHNOCRAT

DECEMBER 1951

The Time Is Now!

ON THE North American Continent we have a greater array of natural resources and technological equipment than any other comparative geographical area in the world possesses. The possibility of technological abundance is within the grasp of every American, but as long as the economy is operated by basic institutions which were developed in the days of early American history, we can continue to expect a system of artificial scarcity.

In the past half century there has been more scientific progress on this Continent than in all preceding history. We have moved from an agrarian society to a high-energy civilization. But instead of changing our mode of operation to work in accord with this technological advancement, we still operate the social mechanism through basic institutions developed in the days of the oxcart.

A vast gap has developed between the hand-tool society of yesterday and the present era of electronics. Our social institutions have failed to keep pace with the progress of science. In this fact lies our basic social problem.

The depletion of our resources, starvation in the midst of abundance, wars, losses from crime, the sense of insecurity, mental instability, and the like—all of these social problems have their origins in the fact that the present mode of operation is not in harmony with the efficiency of our technology.

Every year that passes gives greater evidence that our scientific advancement is incompatible with the ideas of a system of 'free enterprise.' The technology of abundance cannot coexist with a Price System of scarcity.

Our science and machines have bestowed upon the American people their greatest opportunity. Let

us repeat that we have the personnel, the knowledge, the resources, and the know-how, to provide every citizen on the North American Continent with the highest standard of living the world has ever known. Our technological methods can produce an abundance, but the Price System is incapable of distributing this plethora of goods and services. In plain terms, the political-business system under which we operate is out of date with the age in which we live.

Our society today calls for a new mode of operation that recognizes the necessity of applying technological efficiency to the production and distribution of abundance. It calls for a New America based upon the principle that every American on this Continent is entitled to the benefits which our resources and scientific equipment can provide for the general welfare.

It is imperative that we understand that we cannot avoid the responsibility the impact of technology has placed upon our society. The conflict between physical reality and the antiquated ideology of a Price System has reached the limits of social tolerance. The time is now for the American people to demand a new social control conforming to the realities of the machine age.

'So today, with the operation of our technological mechanism, the control measures that must and will be adopted are those that most nearly conform to the technological operating requirements of that mechanism.' Technocracy is the only organization on the North American Continent that has presented a design to the American people expressly for the purpose of meeting this technological problem. We have made our decision. What about you?

December 1951

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Whole No. 160

WORLD PETROLEUM RESOURCES

WHEN man began tapping the earth's sedimentary structures for stored petroleum, there was a definite, although unknown, quantity of oil and gas available. Since that time, the amount added to the stored supply by natural processes is too insignificant to record. One thing that is not stressed in petroleum reports is the fact that, for each billion barrels of oil removed from the earth, there is one billion barrels less than before. Instead, they resort to the cute practice of implying that, if 'proven reserves' are increased faster than actual depletion, there is more oil available than at some previous time. One 'oil expert' actually tried to argue that World War II was beneficial to the United States from the petroleum viewpoint; for, its stimulation of exploration and development resulted in the U. S. having more reserves at the end of the war than at the start, in spite of billions of barrels having been squandered in the war. We contend that, if you expend a billion barrels of oil, you have one billion barrels less for future use than before, even though two billion barrels have been juggled from the 'unknown reserve' table over to the 'proven reserve' table.

There are two tangible measurements of the amount of oil that was available to man at the beginning: (a) the amount removed from the ground up to date; (b) the amount estimated still to be in the ground in certain well-explored districts—the 'proven reserves.'

The amount depleted is a fairly reliable figure, although the actual quantity is probably greater than the published figures by a considerable amount, because of at least two factors: (a) The amount shot off into the air, burned, and otherwise destroyed or lost before reaching the production reservoirs no doubt has been played down or ignored in most instances. (b) The amount stolen or 'just not reported' by concessionaires to evade royalty payments to foreign nations probably is no small figure.

The 'proven reserves' is an educated guess at how much oil is present in certain known pools based upon test drills. These figures are subject to even greater error than the figures on production to date. For propaganda purposes, there is a tendency to pad the figures about oil available to the 'free world' and depreciate the figures about oil available to the 'people's republics.' There is also a tendency to be 'optimistic' about figures concerning proven reserves for purposes of upholding or inflating investment values. A further misleading impression is the failure to mention how much of the 'proven' oil can be recovered by processes now in use. Some methods of production recover no more than twenty percent of the oil in the pool.

Comparatively, area for area, the size of the 'proven reserve' supply depends to a large extent upon the amount of exploration that has taken place in the respective areas. Some places which have been intensely explored may be credited with more reserves than other areas which have been only moderately explored, although the latter may actually have more oil in the ground than the former. Further, there is a tendency among oil companies and certain governments to keep the results of their oil explorations secret.

Wasteful Exploitation

The unknown reserves, of course, is an indefinite figure. They can only be guessed at on the basis of the amount of sedimentary rocks in the area and the amount of yield per unit volume of similar deposits which have been exploited. Such a guess is further complicated by the fact that many areas have not been explored sufficiently to determine the extent and depth of the sedimentary deposits. Until further data are available, one can only guess that the amount of oil available in a given area is roughly proportional to the amount of sedimentary deposits.

PETROLEUM RESOURCES OF THE WORLD

(Figures given in billions of barrels)

	North America	South America	Europe (Minus Russia)	Russia (Including Sakhalin)	Near and Middle East	S. E. Asia, Australasia, and East Indies	Africa
Amount Depleted Through 1950.....	43.59	7.38	1.82	6.65	4.00	1.93	.15
Yearly Rate of Depletion (1950).....	2.07	.64	.06	.27	.64	.09	.02
'Proven' Reserves (Dec. 1950).....	28.72	10.65	.70	5.57	48.00	1.36	.18

North America has been more thoroughly explored than any other continental area, with the result that more oil has been discovered on this Continent than on any other like area, with the exception of the region around the Persian Gulf. North America has undergone a rapid and wasteful exploitation of its oil resources, and its economy is geared to a high consumption of petroleum products. As a consequence, twice as much oil has been taken from the pools of North America as from those of all the rest of the world combined. But, even this proportion does not give a full appraisal of North America's dependence on oil, for, huge imports from South America and the Near East also have been consumed on this Continent. Although the original amount of oil available to North America is probably less than that originally occurring in the present Russian area, we are depleting it at a rate nearly eight times as fast as Russia is depleting her supply.

Prospects Of Other Countries

South America has much fewer sedimentary deposits than North America. Some of the large oil pools have undergone heavy drainage, notably those of Venezuela, Colombia, and Trinidad; and the great Maracaibo basin is on the decline. Further explorations, particularly along the eastern slopes of the Andes, may discover other large pools; but, it is highly improbable that South America's production will ever approach that of North America. The people of South America get little use of their petroleum, the great bulk of it going to the markets of the United States and Britain.

Europe outside of Russia has little oil, and prospects for a major discovery in the future are slight. Rumania is the major producer. Although there are many producing wells located in various parts of Europe, their total yield is small.

Russia, including Siberia and the former Japanese half of Sakhalin Island, has a huge volume of sedimentary deposits, and it is probable that the

eventual oil discoveries will exceed those of North America or the Middle East. Although oil exploration in Russia is proceeding at a rapid rate, Russian depletion is only a fraction of that of North America. Her economy is not yet geared to such huge consumption of petroleum products as ours. If the present rates of depletion continue, Russia will have oil long after the oil of North America is exhausted. Exact data about Russian oil exploration, discovery, and production are not now available to North America, but some of the information that does leak through indicates that they are considerably greater than is shown in the figures provided by American petroleum reports.

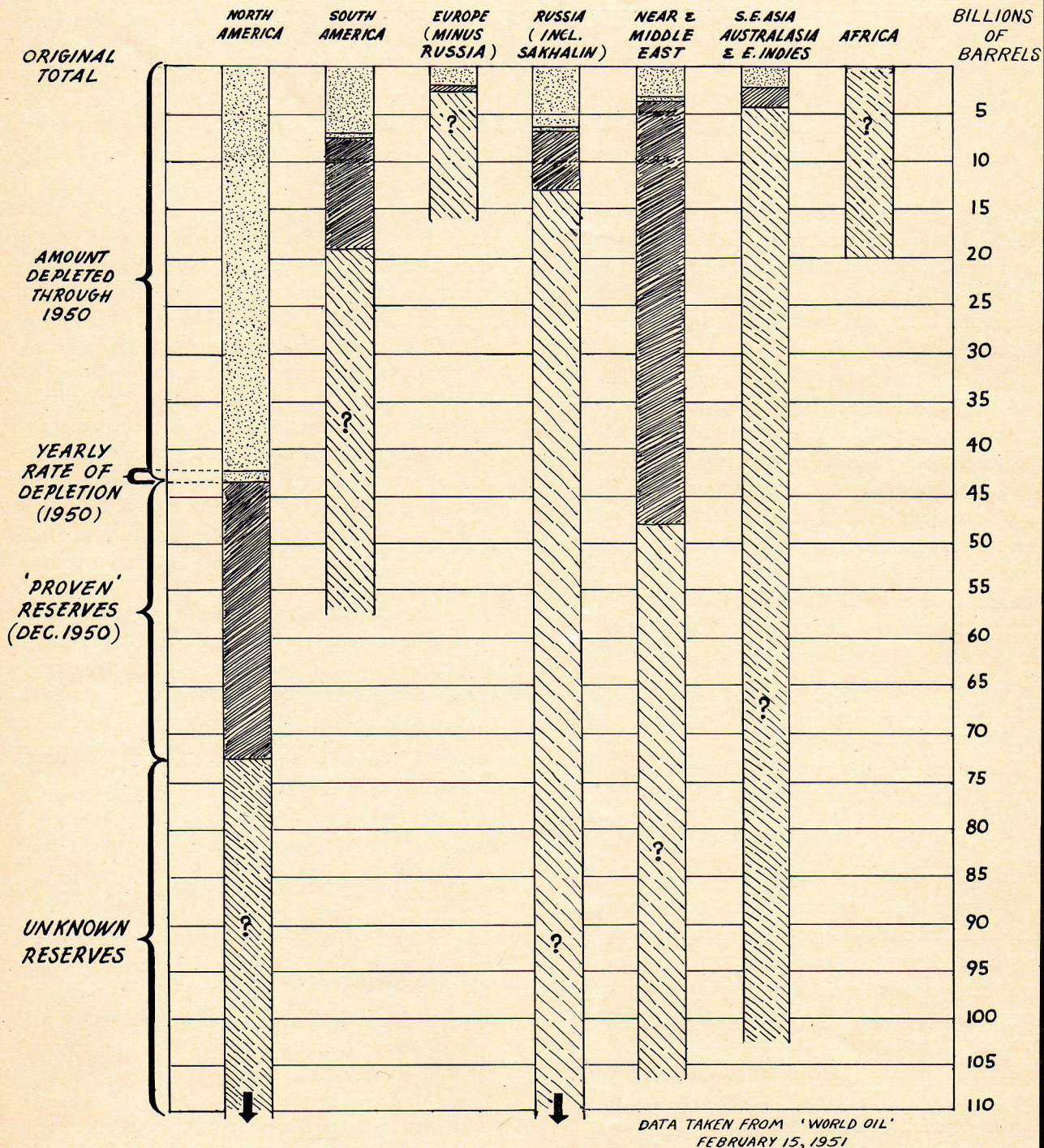
Some of the world's richest oil fields have been discovered in the Near and Middle East, which now claim more than 40 percent of the 'proven' reserves of the world. This general area has been actively explored and developed, mainly by British and Americans. The future allocation of the Middle East oil is at present a matter of controversy.

Southeast Asia includes what is now Pakistan, India, Burma, China, Indo-China, Siam, and the Malay States. Added to these in our charts are the East Indies, Australia, and New Zealand. There have been some important discoveries in these areas recently, mainly in Sumatra and New Guinea, and it is probable that additional discoveries of major importance will be made in the future. There are few sedimentary deposits in India, since it 'just happened' that the two major sedimentary basins of India were carved out to form Pakistan.

Oil production in Africa is small, mainly in Egypt along the Red Sea. Due to a scarcity of sedimentary deposits, there is not much prospect for future major oil discoveries in Africa.

The United States and Canada have become so dependent on oil for their national economies that it follows logically that their political and military policies shall be directed toward further acquisitions of oil from around the world. It is unthinkable (to our economic planners) that any foreign country should be permitted to keep its oil for itself if the

WORLD PETROLEUM RESOURCES



oil appears in sufficient quantities to attract our attention. For example, such backward people as the inhabitants of Venezuela and Iran 'cannot be permitted' to withhold their oil from our use. One may well ask, how much of America's cold war and preparations for a hot war against Russia is based upon that country's possession of rich oil

fields, proven and potential? To the American business mind, international banditry engaged in by our Armed Forces for purposes of hi-jacking another nation's oil is perfectly justified. In all probability, as our own oil resources run low, such exploits will take on the aspects of a Holy Crusade.

—Wilton Ivie, CHQ.

AN INDUSTRIAL BODY

If you are concerned about people being relegated to the status of mere machines and being forced to do repetitive work, here are a couple of points of importance for you to consider. What conditions bring about this and what can be done about it?

The conditions which have brought this about are insufficient mechanization, integration, and coordination; these conditions in turn being the result of our industry having grown up in a haphazard manner without direction or purpose, each corporation developing within itself with no regard to the smooth, productive operation of the mechanism as a whole, and with no regard or consideration for human welfare. To these business interests, the laborer is merely the means of gaining revenue. Goods are permitted to fall into his hands only when the corporation sees the way clear to make a profit. This is true of food stuffs as well as the strictly manufactured goods.

The worker in the present industrial plant is considered by private enterprise to be nothing more than a tool, which the business manipulator finds necessary to retain along with the physical equipment of the plant.

Under such conditions people are being relegated to the status of robots. For a Price System to operate, people must be forced to work at unnecessary activities so they may obtain purchasing power in order that the system of 'free enterprise' can sell them goods at enormous profits for the sake of maintaining the solvency and the power of big business. The Price System method of operation is of such a nature that it can operate only in a society of scarcity, which explains why the vested interests find it necessary to support programs of

waste and destruction. As profits are the motivating force under the system of private enterprise, the individual becomes a mere pawn upon the chess board, to be moved at will by the business operators.

Is it not about time we woke up and started looking ahead instead of backward?

Let's remove ourselves from the category of being tools of business interests and start acting like matured human beings. Let's use our one superior facility, our brains, instead of our muscle power. Let's organize and operate the industrial and social mechanism in the most efficient way possible. Let's put the 'overalls' on the machine where they belong and not on ourselves.

A fully automatic mechanism, thoroughly integrated and selfsustaining, is capable of providing us with the goods we desire; that is, an abundance for all North Americans, all this being accomplished with a minimum amount of human participation in a scientific, technologically designed method of operation.

Join Technocracy Now !

We are capable of installing such a mode of operation at the present time. Such an operating social mechanism is known as Technocracy. Let's refuse to be relegated to the status of pawns by business enterprise and organize our society according to the technological age in which we live. By applying science to the social order we would be given the greatest opportunity to utilize our individuality for creative things. All of us could do something useful for society. If you are concerned, what are you waiting for? Investigate, and Join Technocracy, Now!

Clyde Williams—12237-1.

SCIENCE in the NEWS

EDITOR'S NOTE: The staff of The TECHNOCRAT has selected some of the latest information and developments in technological advancement, discoveries, and inventions which are responsible in changing our way of life from a system of scarcity to an economy of abundance. As the impact of technology descends upon the Price System, bringing with it an ever increasing rate of social change, the result will be a non-operative economy, unless we, the American people, have the intelligence to demand the application of science as a method of social operation.

THE CAUSE OF SOCIAL CHANGE

With less than 7 percent of the world's population, the United States in 1949 produced about 42½ percent of the world's electricity. In attaining a new record level of electricity generation, the electric industry produced over 5 times the number of kilowatt hours generated in 1924, and showed an increase in output of about 28 percent over the World War II high in 1944. Electricity generating capability at the end of 1950 was 1¾ times what it was ten years before, and by 1952 it will more than double the earlier figure.

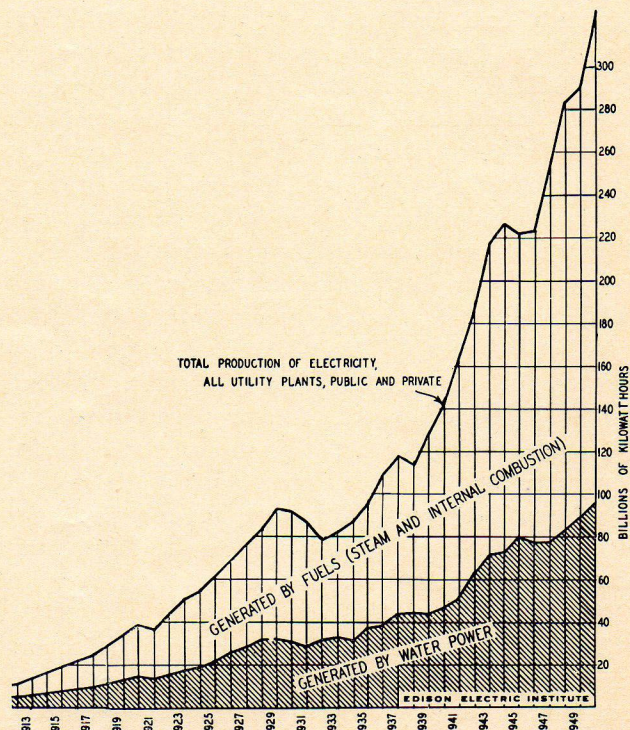
Of the 248,541,646,000 kilowatt hours consumed in 1949, industrial use accounted for 48½ percent, residential 23½ percent, commercial 18½ percent, railways and railroads 2½ percent, and others 7 percent of the total. In 1924 the electric light and power industry served 16,768,509 consumers, but in 1949 the total was increased by 2½ times. About 77.7 percent of the farms in the United States have electricity available.

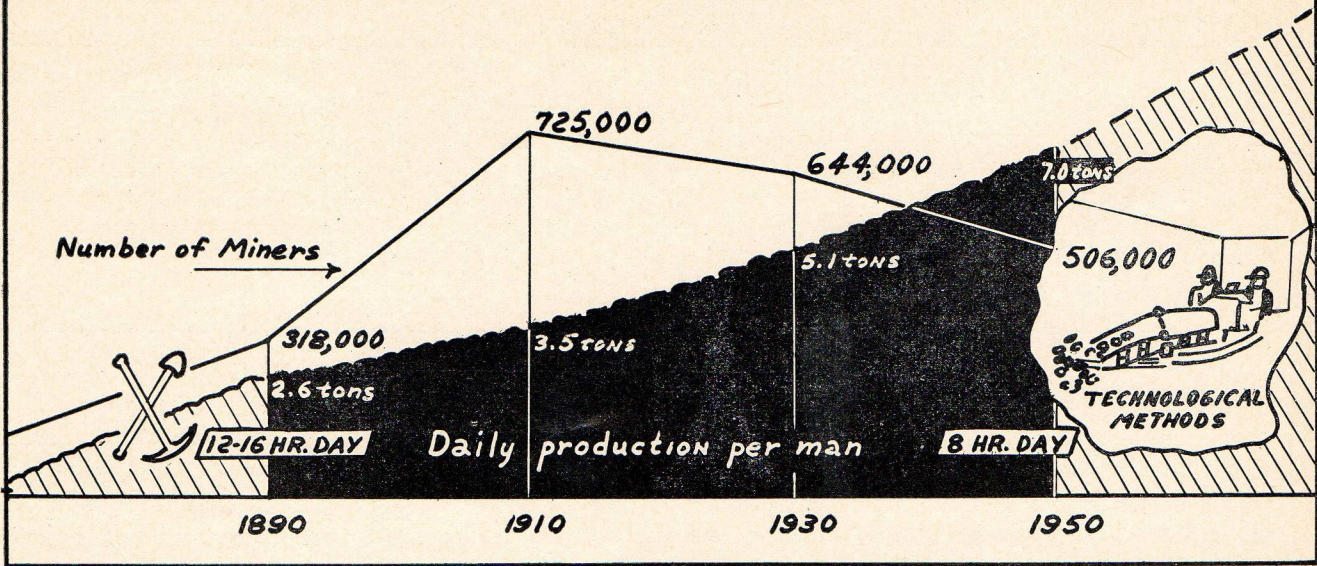
It might be interesting at this point to note that while industrial consumption is 48½ percent of the total, and residential use is 23½, industrial consumers pay only 28½ percent of the total cost as compared with 33 percent for residential consumers. The total sales from electricity amounts to about \$4,018,546,000.

Industries as a whole doubled their consumption of electric power between the prewar year of 1939 and the end of the postwar year of 1947, the latest year for which comprehensive data are available. Increases on industrial groups ranged from about 50 percent in the textile-mill classification to over

350 percent for transportation equipment makers.

Although the North American Continent has 50 percent of the fresh waters of the world, and the loss in water power is tremendous, consumption of non-replaceable fuels has increased at an enormous rate. For instance, the total consumption of coal or its equivalent in other fuels for electrical power production in 1949 was three times the consumption of 1924. Fuel oil (42 gallon barrels) consump-





tion increased from 16 million in 1924 to 66 million in 1949, and gas (1,000 cubic feet) has been increased from 47 million to 549 million. A Continental Hydrology, as designed by Technocracy, would minimize the use of fuels and increase the production of electricity from water power.

By including private companies, governmental agencies, and industrial plants (for own use) the United States produced a grand total of 345,066,000,000 kilowatt-hours in 1949. The present rate of production is about 7 billion kilowatt-hours per week—the highest in history.

No worker, by sheer muscle power, can produce in an eight-hour day the equivalent of energy represented by one kilowatt-hour of electricity. The average power which one man can exert is calculated at about 35 watts. If a man averages 240 eight-hour days (1920 man-hours) of manual work a year, the energy expended is about equivalent to only 67 kilowatt-hours. Industry used on the average about 12,934 kilowatt-hours per worker or the equivalent energy of 193 men, each working 1920 man-hours per year. The cost for one man-hour of labor runs from 75 cents an hour up, but the average cost of one kilowatt-hour was 2.95 cents in 1949.

The ever increasing use of electricity is displacing man-hours of labor at an accelerated rate. No matter how hard we may try, man cannot compete with the kilowatt-hour. The impact of the use of

electricity upon the Price System has a far reaching social implication. The man-hours of labor in the productive processes have already become unimportant because of the greater use of extraneous energy, which includes electrical power. As Technocracy points out, 'any distribution of an abundance, based on man-hours of human participation, can lead only to a failure of the social mechanism.'

In a short span of seventy years the use of electrical power has become the cornerstone in our high-energy civilization. It reaches every segment of American life. In fact, the increased consumption of electrical energy is the real cause of social change.

MORE COAL WITH LESS LABOR

Today coal mining is the industry without the pick and shovel. And the mules have disappeared, too. Now, huge cutting machines and mechanical arms scoop up the coal, feed it onto a conveyor or into cars which carry the coal to the surface of the mine, all in one operation. Because the coal industry has become highly mechanized, production has increased while the man-hours worked have decreased almost one-half of what they were in 1890. One man working 8 hours a day can, with the use of machinery, produce 7 tons of coal as compared with about 1.5 tons for one man working the same number of hours in 1890.

The number of miners in the coal industry

reached its peak in 1910. Since that time the decline in coal miners has been from 725,000 to less than 506,000, or about a 30 percent decrease. At the present time the miners are working only a three-day week or about 24 man-hours over a seven day period. *In working just three days a week the miners can produce all the coal (and a two months supply on hand) the economy can consume.* As more machinery is used in the coal industry, production will increase with less man-hours of labor needed.

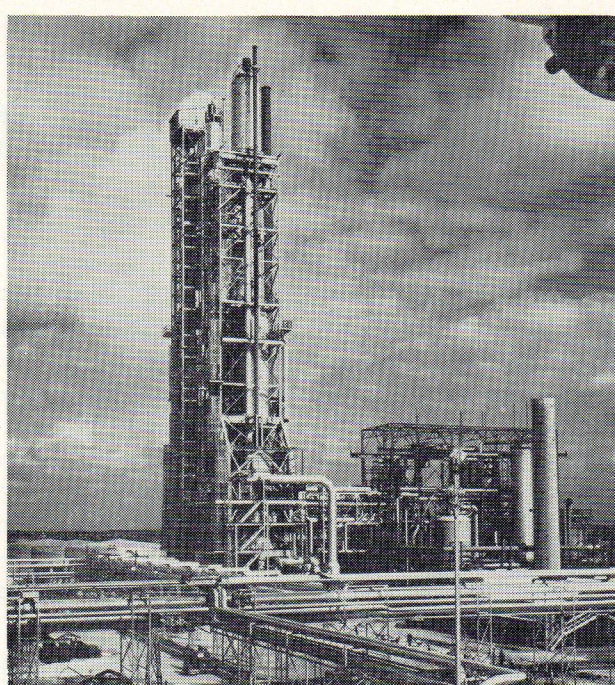
It is obvious the miner's pay has not kept pace with the increase in production. Some 219,000 miners have been permanently displaced by mechanization, and the trend is toward greater disemployment. *What is happening in the coal industry verifies Technocracy's findings that mechanization increases production and decreases man-hours worked.*

Under a Price System the purchasing power of the consumer depends upon the number of man-hours worked. With less man-hours of labor needed, the miners, or the consumers, will not be in a position to buy back what our technology can produce. This means we will have to accept a new method of distribution which is in accord with the abundance our technology can produce, or, be forced to face a chaotic state of affairs.

NEW UNIT INCREASES OUTPUT

The Thermoform Catalytic Cracking units of a new type for producing high-octane automobile and aviation gasoline went into operation recently at a Beaumont, Texas, refinery.

These units increase the refinery's output of high-



First Air-Lift Cracking Unit.
—(Photos-Courtesy of Socony-Vacuum Oil Co.)

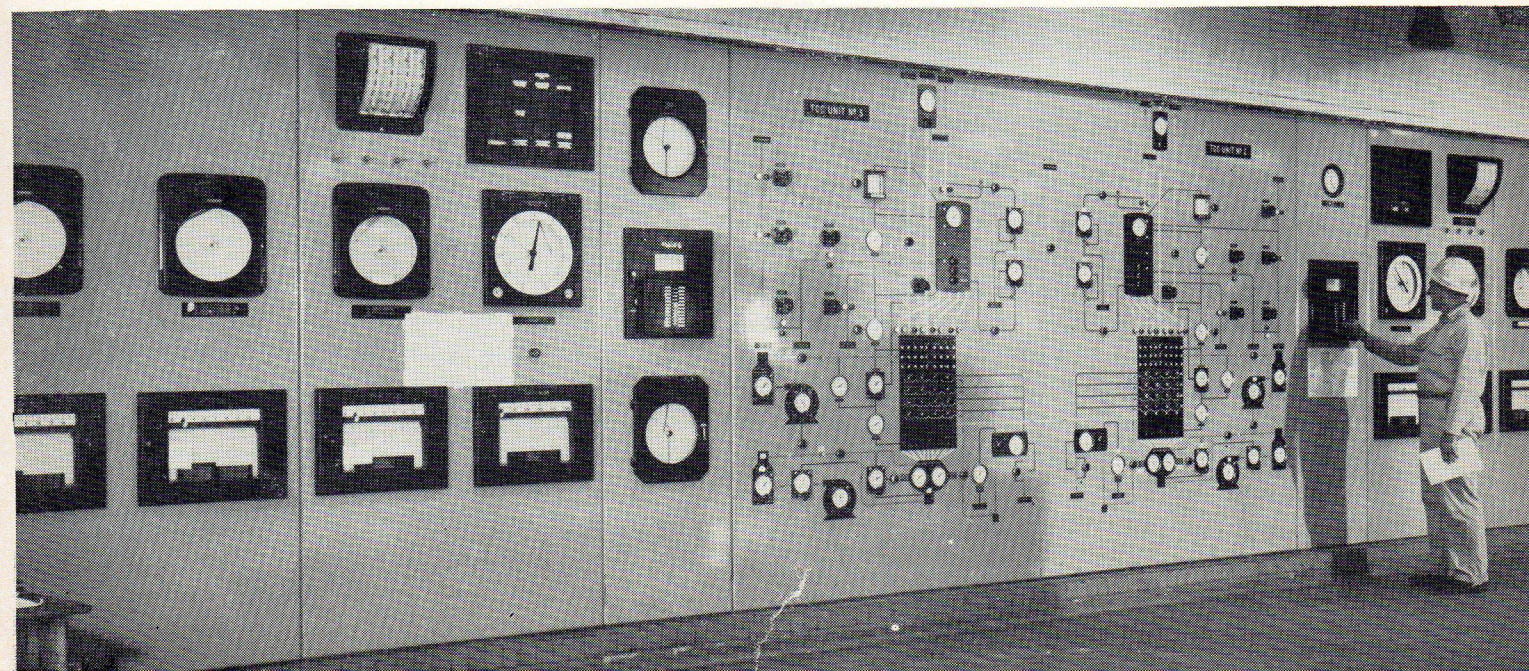
octane gasoline by 50 percent, compared with the Houdry fixed-bed units which they replace.

Each of the units has throughput capacity of 15,000 (42-gallon) barrels a day, compared with 10,000 barrels daily for the Houdry units.

The new method effects substantial reductions in operating costs and also increases the flexibility of operations.

Although the new designed air-lift TCC unit was introduced only a short time ago, there are already over 20 units of the new design being built. They represent a combined charging capacity of over a quarter-million barrels per day.

Below, a graphic panel is one of the many designed features in the new ultra-modern cracking unit.



WHO ARE OUR ALLIES?

IN PREPARING to launch World War III for purposes of prolonging the agonies of the American Price System and upholding the investment values of American business enterprise, the United States finds itself obliged to promote belligerency against the only nation which could give us a good war. In the promotion of our war preparations, we must place a great deal of reliance upon a worldwide collection of allies, which is turning out to be a mismatched conglomeration of political entities, of dubious loyalty and more dubious capability.

We recognize that the armament program is largely designed to pump money into the American Price System and to entrench American business enterprise around the world—in an avaricious scheme to take over the colonial relinquishments of the disintegrating empires of Europe. In the background are also the compulsions of another Holy Crusade against the infidel to the East, and this is no small factor; but this is not the only incentive, nor even the primary one. There is a complexity of motives, and some loom more important to certain interested parties than others. However, the compulsions centering around the prolongation of the American business enterprise system must be considered as the primary motivation. Whatever the supernumerary motives may be, we must realize that our action tends toward an actual war; and, therefore, our position should be reviewed in terms of such a probability.

We are not, at this time, attempting a prolonged discussion of why we are preparing for World War III nor whether we should so prepare. Our nation has already made certain commitments in that direction, and we are concerned with the practical considerations of such a course. Among these practical considerations are the qualifications of the allies which we are selecting to fight and die for the American free enterprise system. Looking at the collection, we are impressed by the sorry state of health that they exhibit. If they were to be chosen on the same basis of physical fitness that we use for selecting the individual conscripts in the Armed Forces, they would all (with the exception of

Canada) have to be relegated to the status of 4-F as being unfit for military requirements. Let us look at them individually.

Britain, as one and a third islands off the coast of Europe, constitutes our overseas Airstrip No. 1. As originally constituted, the British Isles were a fairly nice piece of territory, considering their size and latitude. But, with most of their mineral and fuel resources depleted, their forests gone, and an overburden of fifty million inhabitants, Britain is not an asset as an ally, but a decided deficit. Britain can survive only so long as she can loot the rest of the world for half of her physical requirements. Because of her former prowess at looting the backward areas, Britain was once a great world power; but her privileges have now undergone serious curtailment, and her former lootees feel no more friendship for Britain now than the British did for them at the peak of Empire expansion.

Liability Number One

To get Britain's consent to serve as our ally, the United States would first have to make up her deficit in physical requirements; then, we would have to provide the wherewithal for her armament program. Britain has the skill and she has the tools, of a sort, for making materiel of war, but she lacks the raw materials. The United States has adequate resources, adequate workmen, and a plethora of machines for making the same kind of materiel, although we tend to be more sloppy in our workmanship. It would be far more economical for us to produce the stuff at home than to have it produced in Britain, while any attempt to pressure Britain into an armament production on her own would merely enrage the seething 'hate-America' sentiments which have been, at best, only dormant since 1775, and which now are showing up in nasty eruptions more and more.

Let us look at Britain from another angle: Would Russia want to take over England? Our guess is: No. From any realistic viewpoint of an enemy, Britain would be far more useful as an ally of the

United States than as an occupied territory. Any contributions that Britain could make toward the American war effort will be more costly and more troublesome for the United States than if we did it all by ourselves. As a place to dump money and resources, Britain is wonderful; but as a wartime ally of the U. S., she would be a great asset to the Russians. In summary, the advantages to be gained from using Britain as Airstrip One are not worth the physical and monetary cost of keeping her 'friendly.'

Second on our list of allies is France. In some ways, France is better off than Britain; she can raise enough food for her own requirements. But, technologically, France is stymied by her agriculture and business structure. The tiny peasant farms and the excessive number of small business and handicraft shops make France as a nation highly inefficient and tie up too much of her population. If the farms and shops were consolidated thirty to one, there would be a huge release of population for functions more useful to her role as our ally, assuming, of course, that she were given a beneficitation of resources from the outside. But that would call for a major social change in France, and social change is anathema to the officialdom of Washington.

Internally, the sentiments of the Frenchmen are divided; there is no unity as to whom they would be willing to fight: Some would rather fight against the Germans than to fight on their side; others would rather fight with the Russians than against them; many would rather fight other Frenchmen; and, of course, the majority don't want to fight at all. The military effectiveness of France was largely destroyed during World War I, and what was left was demoralized in World War II. At present, France has her hands full with the rebellious 'colonials' of Indo-China and northern Africa. France cannot be counted as an asset.

Western Germany is another deficit area, heavily over-burdened with population and deficient in resources. There is an unprecedented absence of will-to-fight among the Germans; that is, among the able-bodied ones who are left. The amount of resources and food which America would have to pour into Western Germany, as our ally, would be far more than the return would justify; it would be cheaper to produce the same materiel at home and ship it over to the fields of battle. General Eisenhower is gaining nothing in physical health and mental encouragement from his efforts to convince

the Germans that they should join his Crusade to the east—they have just experienced one Crusade under Hitler and it has left them with sad memories. There is the additional disconcerting factor that, if there should develop a hot war between the West and the East, Germans would probably be fighting Germans instead of Russians.

West Germany as a peacetime satellite is costing the United States billions of dollars. As a wartime ally, this deficit would be multiplied.

What we have said of Germany can likewise be said of Western Austria, but on a smaller scale.

Another Impossible Situation

Italy is already in an impossible situation, being a deficit to both the Italians and the Americans. As a third-class airstrip, Italy might be of some use if we could ignore the Italians; but, you can't ignore them—there are too many of them, and they are too hungry and too vociferous. If half the population of northern Italy could be driven south of the Apennines bordering the Po Valley and sealed off, perhaps northern Italy would be worthwhile as an agricultural and industrial area. As it stands, we have our apprehensions. Italy has a long record of double-crossing her allies in time of war; and her soldiers are not good fighters in theaters of war remote from Italy, particularly where the climate is very cold. What could we offer the Italians as loot that would make them willing and effective as allies on our side? If, on the other hand, we should offer Italy to the Russians as a gift, it would probably be rejected with a most emphatic 'nyet.'

Greece is like Italy, only more so, but on a smaller scale. Our support of fascist reactionism in Greece has won us few friends, in spite of the nearly two billions of dollars that we have dumped into that blighted country. Greece can absorb much money and materials, but any military effectiveness that comes out will be very costly in terms of its amount.

Yugoslavia is costing us much in money and materiel, but we can't count on her as an ally. Yugoslavia is communist and we are openly anti-communist.

The Mohammedan areas of the Middle East and northern Africa are no longer in our camp, with the possible exceptions of Turkey and Pakistan. Egypt is out; so is Iran; likewise Afghanistan. Pakistan is nominally friendly, but is impoverished and has her hands more than full with India, whose friend-

ship we have alienated. Present-day Turkey lacks the territory and the incentives of the old Turkish Empire of pre-World War I; and, aside from its affiliations and sympathies with the Mohammedan bloc of nations, it nurses certain grievances against the West dating from many years back. Turkey has conflicting interests with the Soviet Union, particularly with respect to the straits between the Black Sea and the Mediterranean, and that is the main reason for Turkey going along with the West. However, Turkey is not a strong nation, nor an eager nation. If it is to escape Russian occupation in case of war, it will be mainly the result of prior American occupation followed by strong military resistance. Further, it is well known that the Turks are shrewd businessmen, and we can legitimately surmise that any services they render the West will be well paid for.

Norway and Denmark help to swell the list of Western Allies, but that is about all they can do. They have not the industry, the manpower, or the equipment to 'stop the Russians.' Their effectiveness would be a matter of days at best, rather than weeks, in case of full-scale war.

The Benelux nations are similar to France, but smaller and more crowded. They require resources from the outside. Belgium is economically sustained by the wealth of the Congo; but the Netherlands has lost her external source of wealth and suffers severely from lack of resources. Benelux's overburden of population is mostly tied up in farming tiny plots of land and in keeping small shops. This area is not self-sustaining and could not be regarded as an asset to any military alliance. It could probably supply a few divisions of soldiers and a limited amount of materiel, but the great bulk of the arms, as well as large quantities of civilian supplies would have to come from the United States. But, even then, it is questionable that any fervor for war against the East can be generated among those people, from over here. We note that General Eisenhower has to force himself to display his famous smile for the newsreels after making a visit to the Lowlands.

Iceland and Greenland may have certain usages as outlying bases, but neither can be regarded as an ally.

Spain is a poor, depressed country, willing to accept billions in dollars and supplies from the United States, but not willing nor capable of providing a large military force. The Spaniards are not even much interested in fighting each other any more,

and it is highly dubious that they have any stomach for fighting the Russians. (The irregular Blue Division that went to the Russian front in World War II never returned.) Further, there would be some hesitancy among other European nations over accepting Spanish fascist troops as their brothers in arms. Spain is a sorry deficit as an ally. She might be able to provide a battleground for Americans to fight and die on, provided the Russians could be enticed into accepting battle there, which is doubtful.

Portugal is a miniature Spain. Beyond that, the fighting quality of the Portuguese can be adequately expressed only by means of contemptuous profanity.

Latin Americans have never demonstrated any worthwhile fighting capacity, except when they were killing each other. Brazilian forces in World War II were a flop in Italy. On the whole, the heavy populations and the impoverished condition of the Latin American countries, held in restraint by fascist tyrannies (with American support), are more likely to result in an internal blowup than in military effectiveness against a powerful and distant enemy. In the meantime, the Latin nations serve our 'cause' mainly by padding the anti-Soviet vote in the United Nations.

Asia In Same Boat

In Asia, we can count on only Japan, South Korea, and the Philippines; that is, our statesmen think we can count on them. Indonesia, Burma, India, and China are out. Indo-China is more than cancelled out by internal conflict. Siam lacks the yen to fight. In the Philippines, as in South Korea, the pro-American reactionary regimes are held in power only by American military force. Both have to be equipped with American arms and supplies and forced to fight by American threats. Both are deficit areas, even in peacetime, to which an overburden of population is a heavy contributing factor. Even small South Korea is costing the United States billions of dollars and tens of thousands of lives to hold.

Formosa and Chiang Kai-shek can be written off, except as a place to dump money and supplies. The Chinese soldiers on Formosa would like nothing better than a chance to set foot on the mainland where they could desert and go home.

Japan is our Number One Ally in the far east. Here, a population of 84 million defeated people on

(Continued on Page 25)

MOUNTAINS of OIL

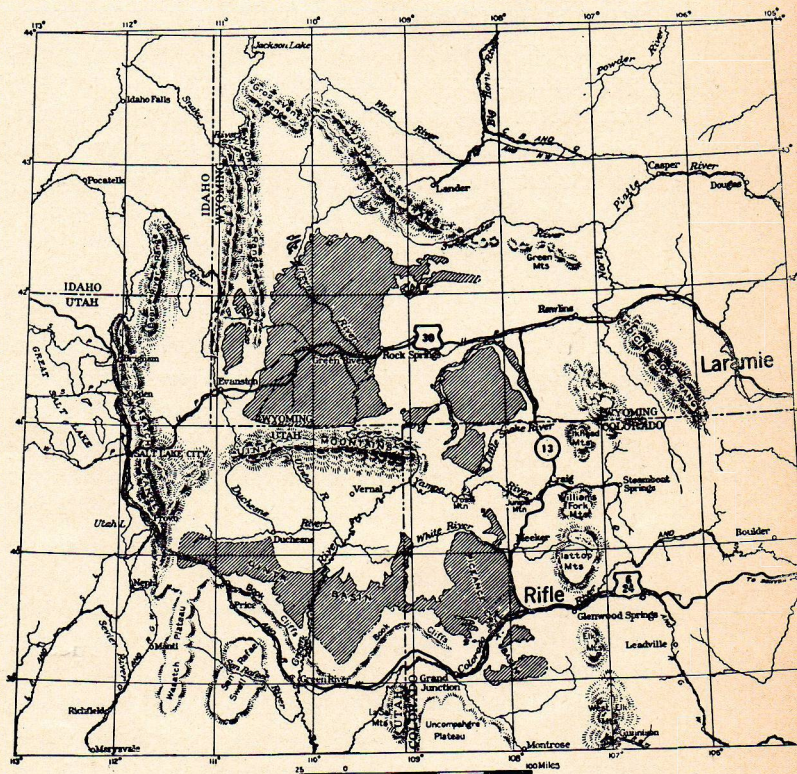
A tremendous amount of energy is sealed in the oil-shales of the Green River formation now being worked by the Bureau of Mines. Efficient utilization of this formation would mean fuel security for a Continent now drawing on its natural petroleum reserves at an unequaled rate.

IN NORTHWESTERN Colorado a history-making experiment is taking place in the mining of oil-shale and the transformation of this material into gasoline, Diesel fuel, and other products essential to operating a high-energy civilization on the North American Continent. The site of this intriguing development is that of the oil-shale demonstration plant of the Bureau of Mines at Rifle, Colorado.

The research in the fields of synthetic liquid fuel going on there is unique, for it is estimated the Green River oil-shale formation of Colorado, Utah, and Wyoming would yield from 300 to 500 billion barrels of oil if all of it were processed. The oil shale being worked today is a part of this tremendous deposit from which over 100 billion barrels of oil can be obtained in Colorado alone. If only the richer portion of the known shale were developed, it would yield more than twice as much oil as has been produced in the United States from petroleum, and several times the proved petroleum reserve remaining in the ground.

Although the current work in oil shales did not begin until 1944, the extraction of oil from shale is not new by any means. As a matter of fact, oil-shale was first utilized in England as early as the 14th century. France had an industry producing oil from shale some twenty years before the first oil well was drilled. Following shortly after the beginning of the industry in France, shale-oil extraction was started in Scotland, where at present twelve mines are in operation supplying shale to five crude works which are producing crude oil, naphtha, and ammonium. As early as 1855 synthetic oil was retorted from oil-shale in Utah. Development of the product in the United States was set back with discoveries of petroleum in Pennsylvania in 1859. In addition to the industries in France and Scotland, and the experimental plant in the United States, others exist in Australia, Manchuria, Estonia, and Sweden.

In selecting a location for the oil-shale project, the objective was to find a place that would be typical of those plants which would later be put on a practical basis. From geological information available on various oil-shale deposits in the nation, it appeared the Green River formation was most likely to become of economic importance in the near future. Accordingly, surveys were conducted over the Piceance Creek Basin in Northwestern Colorado. After investigations were made of this area, it was decided that open-cut mining would not be feasible because the soil and lean shale covering the richest beds are too thick. Therefore, only those



The Green River oil-shale formation of Colorado, Utah and Wyoming is indicated by the shaded areas on this U. S. Geological Survey map.

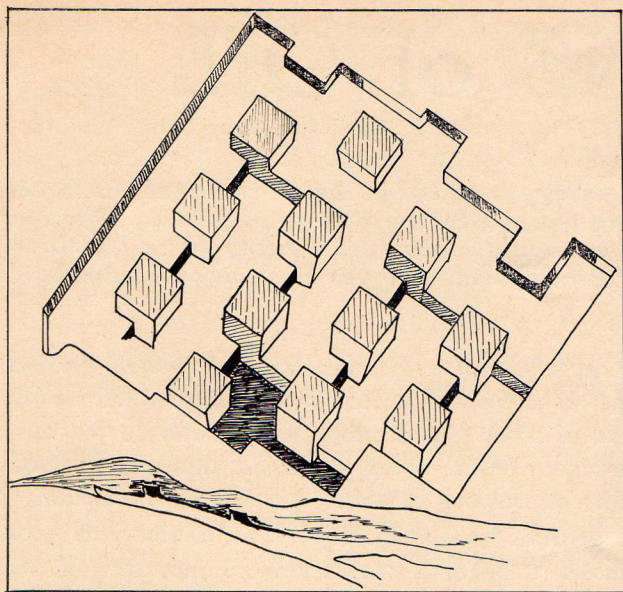


Figure 1—Method of mining developed in underground quarry.

regions that were adaptable to underground mining were considered in further studies.

Nineteen possible project sites were compared in detail on the basis of topography suitable for locating the mine, processing plant, and houses; terrain suitable for access to the mine and transportation of shale; water supply; proximity to existing power and communication systems; and proximity to a shopping center. By using what would be considered the scientific approach to the problem, the Anvil Points area, a few miles west of Rifle, was selected as the best location for the demonstration plant. Construction began in the spring of 1945. The detailed design, fabrication, and erection of the first retorts and the installation of the crushing and screening equipment were completed in 1947. Erection of the refinery began in 1946 and operations were started in the summer of 1949.

The experimental oil-shale mine is at an altitude of 8200 feet and overlooks the plant site 3000 feet below. The mine and demonstration plant are connected by a 5.5 mile winding road. The oil-shale mine is a member of the Green River formation which extends through western Colorado into Utah and Wyoming.

The main oil-shale is near the top of the Green River formation and averages 500 feet in thickness. In this area the shale yield is approximately 15 gallons or 0.36 barrels of shale-oil per ton. The lower horizon, called the Mahogany Ledge, averages a yield of 30 gallons, or 0.7 barrels per ton.

In actual mining operations, entries are driven into the oil-shale from the outcrop of the Mahogany Ledge. The mine is laid out with 60 foot-square pillars to support the overlying formation, and the pillars are spaced 60 feet apart in both directions and staggered in one direction, as shown in Figure 1. A test room has been opened to determine how large the rooms can be without danger of roof failure. This room was first 50 feet long and 100 feet wide but now the width is 80 feet and the length is being extended to 200 feet. As now mined, one-fourth of the shale is left in the ground in the form of roof supports.

At first the distance from the floor to the ceiling was 27 feet. In the second operation the floor has been cut 23 feet lower to make each room 50 feet high. The shale bed in the mine is 73 feet thick, but the remaining 23 feet will not be removed in this experimental activity. It could be recovered later, however.

Technology Lowers Costs

Advanced top-level headings 60 feet wide are first driven immediately under the roof stone by means of horizontal blast hole drilling and blasting. The drilling unit consists of two platforms on a frame-work at the rear of a Diesel truck. The four drills mounted on the carriage are operated by two men. By the use of the multiple-drill carriage, two miners drill out a round comprising seventy-two holes in less than six man-hours, breaking nearly 1700 tons of shale.

A second drilling rig has been developed for drilling vertical holes. The carriage is operated by

A general view of the oil-shale demonstration



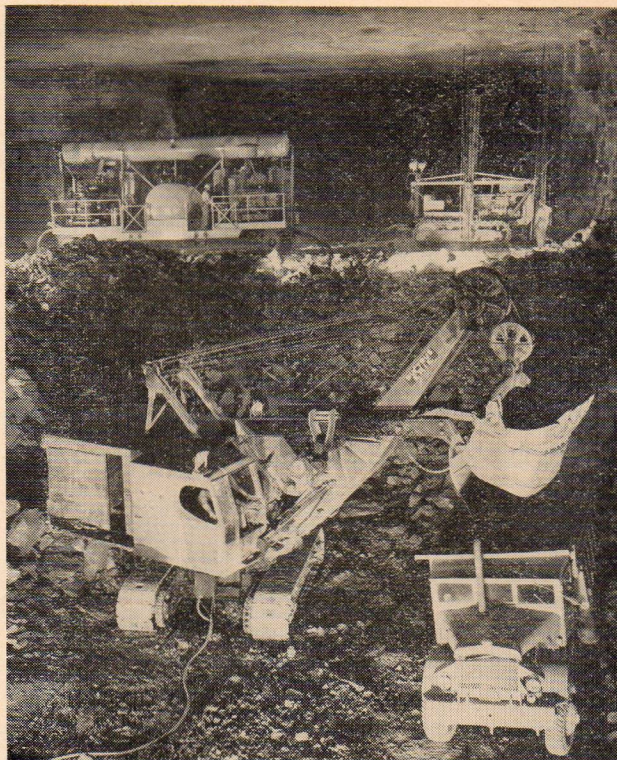
two men who drill a bench round, consisting of forty-eight 22 foot holes in 7.5 man-hours. Each vertical drill round breaks approximately 3400 tons of shale.

A 3 cubic-yard electric shovel with a short boom to permit working under a 25 foot height is used to load the broken shale. The dipper handles as much as 300 tons of shale an hour. Water for wetting down the piles of broken stone is supplied from a water truck with a 700 gallon tank and a high pressure pump. Three 22 ton Diesel end-dump trucks are used for transporting the shale to the crushing plant. From here the shale is available for retorting and the crude oil for storage and eventual refining.

Before the construction of the Green River project it was felt that the cost of mining oil shale would be roughly equivalent to mining coal in underground mines, and for this reason it would be impossible to establish an oil-shale industry on a practical basis. But others who recognized that the physical characteristics of oil shale were favorable to large underground mining predicted lower costs. There were few, however, who anticipated that oil shale could be produced as cheaply as has been demonstrated at the underground quarry near Rifle.

Recent improvements by the Bureau of Mines in mining and processing oil shale have lowered estimated product costs to a point approaching that comparable to petroleum. The experimental mine has adopted surface mining practices to a great degree, since mining costs are considerably lower in quarries and open-cut mines. In a production test run during September and October 1949, the crew at Rifle attained an average direct mining cost of

project, including plant and housing unit.



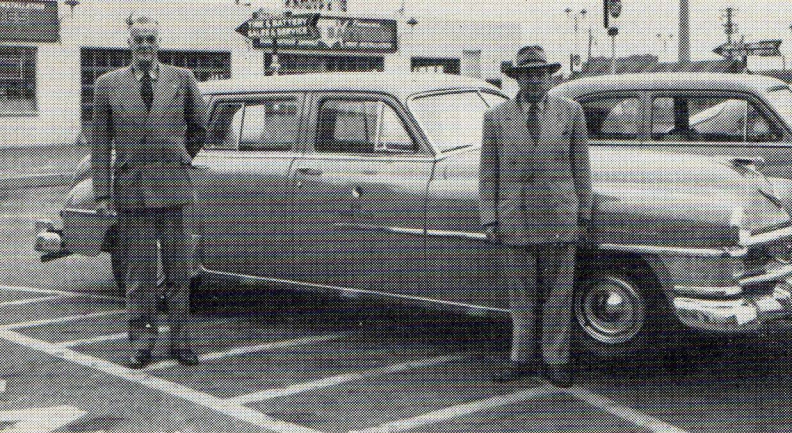
With one scoop, the electric shovel in the foreground loads approximately 6 tons of oil shale into a 22-ton truck for removal from the mine. Note the portable unit at the upper left, which is producing compressed air for the vertical drilling rig at the right.

29.2 cents per ton. The total cost of mining has been calculated to be 58.5 cents a ton. Since the test run, production has increased to reduce the total cost of mining, crushing, and conveying the shale to the retort stockpile to 42.63 cents a ton.

The use of machines and other technological advances made in drilling and blasting methods have played a major part in reducing the energy costs of mining the oil shale. Each worker produces an average of 148 tons during eight man-hours, a total probably unprecedented in underground operations.

Research Improves Processes

Retorting studies have been narrowed to a few processes most adaptable to the exploitation of oil shale. The more efficient processes are still in the design and pilot-plant stages. It is not possible to state which method will be used or whether more than one will be employed. Cost estimates are continually being made to evaluate and compare the various retorting and refinery processes. It is estimated that the cost of producing crude shale oil



From Top To Bottom

Left to right—Howard Scott, Director-in-Chief of Technocracy Incorporated, and Wilton Ivie, Division of Publications (CHQ), standing next to the new official gray station wagon presented to the Chief by the members of the Organization as a gift for his latest birthday.

Another view of the Gray Fleet lined up in formation at a parking lot in Detroit.

Some members of the Eastern Area Technet who participated in operations, and their call letters. Left to right—John Beverleigh, W9CCR; Rody Miller, W8ELI; Arthur Shoemaker, W86YN; James L. Boothe, W8WED; and Ray Krajecki, W9SUJ.

One of the Gray Fleet vehicles from Section 15 R.D. 8141, displaying a neat appearing placard during the motorcade.

—(Techphotos—by Beverleigh and Schantz.)



ation among the people of North America, brought about mainly by their emulation of the bourgeois concepts of business success, wherein one does not 'arrive' until he can drive the latest model of Cadillac and smoke 'Corona-Coronas.' Historically, our social pattern began with the landing of the Pilgrims, advanced westward with the Covered Wagon, progressed to the Melting Pot, and now has descended into the 'Snake Pit.'

Among the numerous statistics presented by the Chief were the following: (a) The production of goods in the United States in 1950 was about \$280 billion, which left a deficit in the purchasing power of the consumers of about \$70 billion; and, it is interesting to note, the federal budget was \$71 billion, purely coincidental of course. (b) Business is saturated with inventories, from automobiles to teacups, and has no idea what to do with them (short of dumping them into another world war). For example, the liquor distillers have on hand enough whiskey to supply the present rate of consumption for eight years and four months without distilling another gallon. (c) Efficiency and rate of production have been so improved that the capital payoff time on the original investment, in the more advanced industries, is now a matter of weeks, instead of a century as it was up to a few decades ago. (d) The first continuous strip steel rolling mills, in the late 1920's, operated at the rate of about 600 feet per minute; today, it's 6,800 feet per minute, and there are designs drawn up for mills that will operate at 10,000 feet per minute. (e) It is reported that we have 62 million employees at work, but this figure is partially fictitious, for it represents many duplications resulting from people who work at two jobs

from 30 gallon-per-ton shale will be about \$1.50 a barrel. This includes the cost of mining as well as the cost of retorting. Improvements, of course, are reflected by reductions in the estimated costs.

Although the cost of refining shale-oil is higher than petroleum costs owing to higher refining losses, the components lost as far as liquid fuels are concerned (sulfur, nitrogen, oxygen, and unsaturated compounds) should have considerable use as raw materials. Another thing which is favoring shale-oil is the fact that while knowledge is being accumulated that will make the production costs of shale-oil lower than previously expected, the general trend of the cost of finding new petroleum has been upward.

Research and experiments at the oil-shale demonstration plant are constantly changing as more efficient ways of transforming this vast reserve into oil and other products are being found. The energy costs of mining the shale have decreased considerably by the development of improved techniques in drilling and blasting, and by the use of modern technological equipment in the loading and the hauling of the shale. Various methods have been used in crushing and retorting the shale to obtain maximum recovery efficiency of oil from shale. The combined research effort has now developed refining processes for crude shale oil that will yield high quality motor gasoline, jet fuel, Diesel oil, and all grades of heating oil.

Science Deserves Credit

The thorough investigations which were undertaken before determining the location of the shale-oil demonstration plant, and the painstaking research that has been carried on since the erection of the experimental station deserve to be commended by those who realize the importance of this work to the economy. In these times when constructive scientific progress is being stifled by political and business expediency, it is unusual for the technologists, scientists, and engineers, who are co-operating in making the oil-shale project a success, to be allowed to do something commensurate to their ability. But in this project we must not overlook certain measures that have been taken by business interests to forestall any long-range program for the efficient extraction and utilization of shale-oil from the Green River formation.

In the first place the government has made it known that it has no intentions to compete with pri-

Pictures and information for this article—courtesy of the Bureau of Mines, U. S. Department of Interior.

vate business in the production of oil from shale. According to the Bureau of Mines, this experiment is being carried on solely to provide business with the 'know-how' necessary to exploit oil-shale on a commercial basis. While business-as-usual pursues a policy of watchful waiting, the American taxpayers are subsidizing a project which will benefit only a few dividend holders of a limited number of big-business corporations.

In the research and development work on oil-shale and shale-oil, the Bureau of Mines has received 'co-operation' from many business enterprises. Among these are included the Phillips Petroleum Co., the Shell Development Co., Sinclair Refining Co., Socony-Vacuum Oil Co., Union Oil Co. of California, etc. It must be obvious to anyone who has the slightest understanding of the theory of business enterprise that these companies are not 'co-operating' with the Department of the Interior on this project just for their health. These companies would not enter into agreements with the government unless they were sure the work would be beneficial to them in the long run. As an added precaution, in case the government got any ideas, these companies knew what they were doing before the Bureau of Mines was allowed to set up the experimental plant. Outside of the three Naval Reserves, which cover only a small area of the shale formation, the companies mentioned control a greater part of the remaining shale. Expansion by the federal government in this field would be almost impossible under the present circumstances.

It is a well known characteristic of business enterprise under the Price System to move into a lucrative field, exploit the high productive yields, whether it be coal, iron, lumber, etc., and then move on to more profitable pastures—making it impossible to recover the remaining materials. Once the shale in Colorado, Utah, and Wyoming is considered commercially feasible, the vested interests of this nation will ravage the shale beds as they have the forests and the petroleum of the nation, and the iron ore of the Mesabi Range.

Whether business enterprise deems it wise at this time to withhold information concerning the Green River formation or go ahead with the exploitation of the shale on a commercial basis remains to be seen. It might be the strategy of the Price System

(Continued on Page 24)

'The Reader's Corner' - - -

QUESTIONS FROM OUR READERS—(Editor's Note: Readers of The TECHNOCRAT are invited to submit brief questions on matters pertaining to the social problem of North America or on points of Technocracy's program which are not entirely clear to them. Questions must bear the signature and address of the writer; this is for reference only and will not be used in the magazine. The Editor reserves the right to select the questions to be used and to change the wording, if necessary, for brevity or clarity.)

What Does Total Conscription Include?

Total Conscription is a designed national operation. It is specific. It includes the Men, Machines, Materiel, and Money of the nation. Some programs of so-called total conscription advocate merely conscription of people; others contain loose statements about capital and labor. But if there is conscription of people, as there will be, the Government must also conscript the tools they use. The Governments of the United States and Canada must mobilize *all* the factories, *all* the equipment, and *all* of the buildings used in production, distribution, and services, as well as the people. They must also conscript or 'freeze' the *entire* financial, corporate wealth of the nations for the duration of the emergency. The four 'M's'—Men, Machines, Materiel, and Money are necessary for complete national mobilization. All United States and all Canada each will comprise coordinated unit operations—each closely integrated with the other.

How Can Total Conscription Be Installed?

Total Conscription can be installed only by the Governments of the United States and Canada. To preserve national unity and stability it will have to be inaugurated constitutionally by the duly elected government in each country. Total Conscription can be installed under the provisions of the Constitution of the United States and under the laws and the British North America Act of Canada.. This is the only way that Total Conscription can be installed in the United States and Canada.

Technocracy is sponsoring this program in both United States and Canada so that the people may be cognizant of the effect which the march of world events is having on the internal operations of this Continent. Technocracy's analysis of the physical

operations of the North American Continent has shown that each country, and this Continent, is capable of a production far beyond our present efforts provided that the physical operations are organized scientifically under technological direction.

The people of America must realize the need for such a program in order that they may exercise their prerogative as citizens in bringing such a program before their government. The pressure of physical events has made Total Conscription necessary; an informed public can demand and achieve its adoption.

How Would Business Be Conducted?

No business would be conducted in the sense that we now consider business. We cannot conduct a total war with 'business as usual' and if we stop to 'think,' we see that we cannot meet the emergency with the methods of business at all.

Total Conscription would call for the suspension of all so-called 'business' activities as we know them.

There would be no markets and competitive trading—no buying, selling, or government purchasing from corporations and individuals. The title to all materials, whether originating from agriculture, mining, manufacturing, the forest, or the sea, would be transferred to the federal Governments before being shipped on any common carrier. This means that individual corporative purchasing and government purchasing from private corporations will be replaced by mass government purchase (allocation or requisition). This can be reduced to the simple formula: That every purchase order is for the full 30-day operation-output of mine, factory, mill, etc.

This would eliminate the tremendous flood of purchase orders, shipping bills, invoices, checks, drafts,

each; also, a person is classified as employed if he works only a few hours per month. There has been a decrease of employment in agriculture, in mining, and in manufacturing. The employment rolls have been held up by increases in parasitic employments, such as in merchandising.

North America could have been well on its way to rebuilding the Continent—installing Continental Hydrology, rebuilding the transportation systems, redesigning the distribution system—with the money and resources wasted on World War II and the postwar armament programs.

The Chief discussed at length the impending oil shortage and its implications, pointing out that, although our petroleum production has risen, our rate of consumption has risen faster, resulting in a net import of a million barrels of oil a day to meet our domestic consumption. Among other things, he noted that the fighter planes of World War II used 54 gallons of fuel per hour, but the jet fighters today use about 260 gallons of fuel per hour. How big an airforce can we sustain on that basis?

North America has the know-how to do almost anything, but it is seriously lacking in know-what. Our present internal policy appears to be mainly devoted to financing expedients for upholding private business enterprise and for collecting more taxes. There appears to be no official recognition of the basic problem of this Continent or how it can be approached successfully. Only Technocracy provides an accurate analysis of the situation and provides the design for Continental security and abundance.

A group of Members interested in short-wave operations met and discussed their particular activity. They report that there are several stations now in operation in the North Central area, but announce that there is still room for more Technet sta-

IMPORTANT ANNOUNCEMENT !

For the benefit of members and subscribers in California we are happy to announce that Howard Scott, Director-in-Chief of Technocracy Inc., and other representatives of Continental Headquarters, will be on tour in this area the latter part of November and the first half of December. Further details will be forthcoming from Sections and Organizers in California.



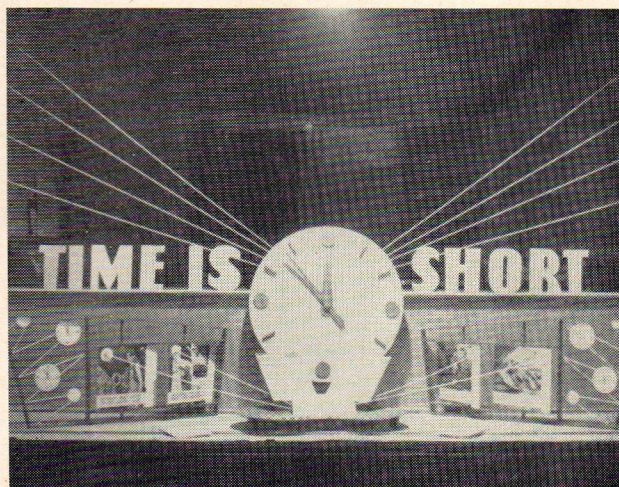
Members from Chicago, Milwaukee, and Appleton, having a picnic at Cedar Lake near the Wisconsin border. Outing was held last September.

—(Techphoto by Krajecki.)

tions in this territory. It is anticipated that this will be an expanding endeavor among the Members of Technocracy.

Following Operation Detroit, the Chief spoke at a series of Membership Meetings in Detroit, Toledo, Cleveland, Akron, and Kent.

Technocracy Salutes the many Members who participated in Operation Detroit and helped to symbolize the Organization in such an impressive manner; and a special Salute goes to the Officers of the Kent, Hamilton, and Detroit Sections for their efforts in organizing the Motorcade and Area Meeting.



Attractive and timely is the window display featured at SHQ of R. D. 11834-1, Los Angeles. This unique display of literature, coupled with the theme, 'Time is Short,' has attracted much attention.—(Techphoto by Fulton).

contracts, and general red tape involved in the production and distribution of goods and services, and—in postwar projects to come.

Individual and corporate enterprise must suspend their privileges for the duration of the emergency period if the nation is to survive, just as well as all blocs and pressure groups must suspend their privileges for the welfare of the nation as a whole. This program is not directed against corporate enterprise, and it is not directed against labor or any other special interest group; it is directed toward the security of the nation. No conscription of manpower in America can be either equitable or efficient if corporate enterprise is not likewise conscripted.

What Is My Obligation As A Citizen?

In Total War it is 'all for one and one for all.' Before we can mobilize civilians, we must adopt a clearly expressed social responsibility; before we can fully engage our great technology both the people and the Governments of the United States and Canada will have to assume a new obligation—a *new contract of citizenship*.

On one hand, the Governments of the United States and Canada will be responsible for every resident of the national domain. Total Conscription requires that the Government provide sustenance and security to all its citizens—food, clothing, shelter, medical care, and a national scale of pay.

On the other hand, the people of the two countries must contract to serve the national interest to the exclusion of their own interests for this period of crisis. This new obligation means that the people of North America freely surrender for the duration of the emergency their right to conduct business, their right to collective bargaining, their right to charge prices, their right to create debt, their right to be free to chisel their fellow men. They must adopt a national service as their part of the contract of citizenship.

The man in the Armed Forces has already surrendered these rights. He cannot get rich, he cannot bargain with his commander, he cannot strike, he cannot buy and sell the implements he uses.

America will have to adopt compulsory national service in place of selling the emergency to big business, selling it to the labor unions, selling it to the farmers, selling it to finance capital, and selling it to the public through various forms of economic bribery. The men who do the fighting are in national service now and Technocracy contends that such national service must become the permanent duty of all North Americans.

WORDS in the NEWS

Often new words and phrases, derived from the names or personal characteristics of certain prominent personages, appear in the language of a people and become an established part of it, being used as concise symbols to represent certain types of behavior which history has associated with those individuals. Here are a few examples which have appeared in recent years:

MEN OF GOOD WILL—People who kow-tow to American business and political policies.

SLAVE LABOR—The employes of a competitor nation which is able to undersell our businessmen in the world market.

AGGRESSOR—The blankety-blank-blank so-and-so who beat us to the loot.

PEACE-LOVING NATIONS—Those who are willing to help us fight Russia.

PROPAGANDA—The other fellow's lies.

THE TRUTH—Our lies.

THE BIG LIE—An unpleasant truth about ourselves revealed by our opponents.

NAZI WAR CRIMINAL—'So, he made a little mistake! But, at heart, he's really a nice fellow; let's give him another chance.'

PEACE—Shh! This is a subversive word used only by 'Reds.' Its implications are entirely contrary to 'The American Way.' It means a state of international affairs wherein each nation keeps its armed forces (if any) at home and tends to its own business and lets other nations do likewise.

COMMUNIST—Anyone who is not a Roman Catholic (in fact or in effect); there are 126 million of them in the United States—no wonder Congressional and editorial collaborators of the Vatican are so excited about 'communism' in America.

COVER PICTURE

Pictured is a view of the underground quarry in the oil-shale formation near Rifle, Colorado. Equipment at the right raises the worker to various heights to remove pieces of rock that cling loosely to the walls and roof after blasting. It consists of a telescopic mast mounted on a fork-lift truck. With tower fully extended, the platform is 65 feet above the mine floor, and the scaling rig can be used on any level of the oil-shale mine.—Photo-Courtesy of Bureau of Mines, U. S. Dept. of Interior.)

OPERATIONS

News of the Organization

OPERATION DETROIT

OPERATION DETROIT consisted of a major motorcade of Gray Cars converging on Detroit from various directions for the weekend of August 25-26, including the new CHQ Station Wagon, which was recently paid for by donations of the Membership. Some cars came from as far as 600 miles away. The list of participants included Members from:

Detroit, Mich.	New London, Ohio
Niles, Mich.	Brunswick, Ohio
Pontiac, Mich.	Warren, Ohio
Cleveland, Ohio	Chicago, Ill.
Ashtabula, Ohio	Berwyn, Ill.
Canton, Ohio	Jordan, Minn.
Toledo, Ohio	Minneapolis, Minn.
Akron, Ohio	Thief River Falls, Minn.
Kent, Ohio	Ottumwa, Iowa
Milwaukee, Wisc.	Clifton, N. J.
Lambertville, N. J.	Windsor, Ont.
Hamilton, Ont.	Sarnia, Ont.
	Toronto, Ont.

Pictures were taken of the Gray Fleet on Sunday, August 26, and those cars which assembled for this event made an impressive sight, signifying Organizational strength and unity. The Chief's new car is a Chrysler, V-8, Town and Country Wagon. It is one of the first few of this model to be built by the company.

A large dining hall was filled to capacity with the many Technocrats who attended the turkey dinner. This was followed with introductions by John Spitler, Director of the Detroit Section, and a lecture and question period by the Chief, all of which lasted for about five hours.

The Chief started his talk with an announcement that the Organization is now in a healthy condition and ready to step up its operations. This condition has been heightened by the fact that recent social stresses on this Continent have tended to weed out from the Organization the more unstable persons and also the purely self-seeking personages.

Howard Scott then pointed out the psychotic situ-

Technocracy rolls on—symbolizing the need for a New America of technological abundance. Indicative of this fact is the below formation of a part of the Gray Fleet that participated in the successful 'Operations Detroit.'

—(Techphoto by Walker.)



The RESEARCH BULLETIN

NEWS ITEMS OF SIGNIFICANCE
QUOTED FROM THE NATION'S PRESS



LIBERATED FOR WHAT ?

More than 8,000,000 Koreans have lost their homes, the South Korean government reported today. Approximately 5,500,000 people, one-fourth of the entire South Korean population, fled from their homes during the fighting as it swept up and down the peninsula.

PRODUCT OF ENVIRONMENT

The lives of at least 7,000,000 Americans are being wasted by mental and emotional illness, says Oren Root, president of the National Association for Mental Health. The waste is all the worse for coming when national emergency demands maximum skill from the people, he added.

A TREND TO RECOGNIZE

The 70,000,000 Arabic-speaking people of the world are 100 percent with Egypt in its decision to abrogate the Suez Canal agreement, declares Dr. Charles H. Malik, U. N. delegate and Lebanese Minister to Washington. Moreover, he stated, the Arabic peoples generally are in sympathy with Iran in its nationalization of oil.

MECHANIZATION INCREASES PRODUCTION

Normally a coal mine attracts few sightseers, but the mine at Clover, Pa., has been drawing visitors for more than a year. The point of interest is an elaborate underground 'rubber railroad.' It carries a thick stream of coal from the face of the mine to the tippie, a distance of more than three miles, in less than an hour. The 'rubber railroad,' actually a 30-inch conveyor, can haul up to 3000 tons of coal a day.

WHAT ABOUT AMERICANS ?

In spite of the attempt of various levels of the government to economize on non-essential spending, the major public assistance programs show that there are 5,500,000 persons on relief or about four percent of the population receiving aid from federal, state, and local funds, according to Federal Security Administrator Oscar R. Ewing.

AS USUAL—BIG BUSINESS IS WHITEWASHED

Pittsburgh, Sept. 26.—(UP)—Federal Judge Marsh dismissed a \$100,000,000 government lawsuit against the Carnegie-Illinois Steel Corp.

The suit, filed almost eight years ago, was based on a government claim that the firm, now known as United States 'Steel' Co., made defective steel plates for ships during World War II. The attorneys simply asked that the suit be ended at the request of the government.

The suit grew out of a Senate committee investigation which was headed by then Sen. Harry S. Truman.

A DEPRESSING RECESSION

During the past twelve months, textile output first marched up a hill and then marched all the way down again. Production increased rapidly from July to October, 1950, but has shown a declining trend ever since. The initial rise was in response to the heavy demand after the outbreak of the Korean war when there was a general rush to buy. More recently consumers' purchases have slowed down, and consequently manufacturers have found themselves holding very large inventories. The result has been a reduction of operations in many of the mills. (September, 1951, issue of Cleveland Trust Bulletin.)

BEHIND THE TIMES

Many persons think that the United States will eventually adopt the metric system of weights and measures. We and Great Britain are the only important nations that do not now use it.

Many of us are not aware of the fact that James Watt, the English engineer of steam-engine fame, originated the decimal system, which has generally been attributed to the French or Germans. Nor is it well known that the system used in Great Britain and America is of German origin. We therefore have the anomalous situation of English-speaking people clinging to a German invention, which the Germans themselves have dropped, while the rest of the world has adopted an English invention.

INDICTMENT OF PRICE SYSTEM

With the opening of the new academic year, the crisis resulting from insufficient school facilities has increased. Preliminary figures on enrollment at the U. S. Office of Education show an increase of over 800,000 in the number of pupils in elementary and secondary schools over the 1950-51 school year.

USOE officials estimate that an additional 29,900 classrooms were required to take care of this increase alone. During September 1950-51 only 36,000 classrooms were completed. A year ago the backlog in classrooms was 250,000. Now it has risen nearly 12,000. It is a dark picture, and the educators see no prospects for its improvement.

AN ECONOMIC NECESSITY

Great Britain has rejected United States demands that she ban all trade with the communist east. Britain cannot abandon trade with East Europe without seriously endangering its own economy. Britain has appealed to the United States to recognize that embargoes 'will not end communism,' but will merely deprive each part of Europe of the resources of the other.

Britain must export to survive. About 60 percent of her foodstuffs is imported. To keep off the financial rocks, she must keep the gold and dollar reserves high. Currently a deficit in dollars is faced. For this reason she cannot increase imports from the United States. Under the circumstances she must trade with the East for grain, timber, and other products or be confronted with complete economic collapse.

WARS BECOMING TOO EXPENSIVE

Former Congressman Edward Gossett stated recently that the United States Treasury would run out of money in the event of a third world war. Gossett, now general counsel for the Southwestern Bell Telephone Company, told the tenth annual Dallas personnel conference that we spent \$75,000 for each enemy soldier killed in the last war and the cost in the Korean fighting is 'probably \$100,000' for each slain Chinese soldier.

TOO OUTMODED TO COPE WITH PROBLEM

NEW YORK.—The 17 investment banking firms here are defending themselves against an octopus anti-trust suit brought against them by the federal government.

Circuit Judge Pettyman has remarked: 'The time, the expense, and the difficulties presented by the sheer volume of such cases are fantastic. A mass of papers so vast as to require a year or two of steady attention for merely one reading is outside the limits of practical judicial capacity.'

The point is particularly poignant in the case of the investment banking business or any other big business. It has been investigated, legislated on, and regulated in meticulous detail now for nearly two decades.

TOWARD GREATER SELF-SUFFICIENCY

A small thistle-like burr called a 'teasel' has been used in textile mills for years because it seemed to be the only thing usable to raise the nap on fine woollens. It takes 2,500 to 4,000 for a single machine, and it is difficult to obtain the required amount of teasels either here or abroad. The Hardy Brush Company, however, came up with the idea of using nylon bristles for this nap raising. Two machines completely bristled with tufts of nylon were turned over to New England mills for testing, the results being that nylon bristles were found to be far superior to natural teasels. *Synthetic teasels will make the importation of the short-lived natural teasels needless.*

When the natural teasel breaks, it streaks the fabric. Nylon eliminates that completely, and by the same token, does away with the one-to-two-hour daily inspection required with the unpredictable natural teasel. The synthetic teasel raises the nap faster, too, saving costly production time.

Mountains of Oil

(Continued from Page 16)

operators to sell the American people on the idea that the oil situation in the Middle East is worth the risk of another war, provided the U. S. S. R. will take the bait. In that case the 300 to 500 billion barrels of oil which could be processed from shale would receive very little publicity. (We are not trying to minimize the importance of oil in the Middle East to the economies of Europe and the effect nationalization will have on the United States now that the 'leaders' of this nation have foolishly committed us to backing the deficient areas of Europe.)

There are many factors which place further development of shale-oil into greater significance. Most important is the fact that the trend in other parts of the world is toward nationalism and the nationalization of resources. For this reason the North American Continent must become less dependent on other nations for this basic resource. Known shale-oil resources and other synthetic fuels could make this Continent self-sufficing for years to come. It is not too encouraging to know that while production of petroleum for the nation has in-

creased, so has consumption, as well as imports. Another thing making our shale deposits loom up in the present oil crisis is the low average of petroleum production from the wells in the United States, an average of about 12 barrels per well per day. Now that our oil reserves are getting low, and petroleum is becoming harder and more expensive to find, it concerns all of us that we use our remaining resources in an efficient manner.

Technocracy contends that there exists on this Continent an emergency far more serious than all of the scare propaganda which continuously comes out of Washington in the guise of national defense. The social problems of the North American Continent cannot be solved by political and business expedencies that call for greater destruction of human and natural resources vital to a high standard of living. This is one reason why we must discard the Price System of waste and scarcity, and demand a method of social operation which will not only produce abundance but will distribute our resources with a maximum efficiency and a minimum wastage. Now that the system based on commodity evaluation has reached an impasse due to the pressure of technological abundance, science applied to the social order becomes the next most probable state—that is *Technocracy*.

—Clyde Wilson.

THEY HAVE SOMETHING THERE!

COPENHAGEN, Sept. 22.—(Reuters).—In a super-suburban block of apartments outside Copenhagen a busy wife need never do any cooking or housework or laundry unless she wants to. She doesn't have to take care of her child. She doesn't have to worry about entertaining guests. And she can even arrange to have someone else pay the bills.

Called Hoeje Soeborg, this block of 124 flats is built to meet the needs of families in which both the husband and the wife are out all day. For a husband and wife with one child the block offers the complete solution.

By arrangement with a specially trained staff, the tenants can:

Receive and deliver parcels, have bills collected and paid, have their flat cleaned regularly, have their washing done in the laundry in the cellars.

Have their dinners bought for them and delivered to their apartment partially cooked or ready for immediate serving.

Have a regular box lunch prepared to eat at the office. Have their child taken care of by a fully trained staff in a special section attached to the flats.

If the family want to put up guests, they can do so in special guest rooms. If they want to throw a big party, they can entertain up to 40 persons at dinner in a big guest dining room, complete with all accessories and service. The kitchens attached to the flats will cook the meals and there is a staff of waiters ready to serve it.

After dinner, the guests can be entertained in the music or the game room. In the summer, they can all adjourn to the roof garden and drink their coffee in the evening sun.

Baby sitters are arranged for couples dining out. The arrangements for looking after children include a 'crib room' for babies, a kindergarten for small children, and a 'leisure time home' for older children.

The restaurant serves meals from 7:30 to 10:00

p.m. Prices are reasonable—complete dinner costs 2.75 kroner (about 40 cents) and breakfast about 1 krone.

To enable meals to be kept as cheap as this, tenants have to undertake to eat 20 dinners a month per person in the restaurant. These compulsory meals, however, may be served in their own apartment or may be used up by entertaining guests in the restaurant.

Expenses are low. For three persons (husband, wife and child), monthly expenses including rent, compulsory meals, utilities and telephone come to 409 kroner (\$57.25).

Other expenses are on the same scale. The monthly cost of leaving a child in a kindergarten, for example, is \$6.75.

Each flat is fully equipped with electrical apparatus and bathrooms and kitchens are tiled. An elevator serves all floors.

Each tenant has a storage room in the cellar. The smallest flat has one room (plus kitchen and bath)

with a box room and usual accessories.

More than 1000 applications poured in for the 124 vacancies.

*(Editor's Note.—*The American people are constantly being 'informed' that the rest of the world has a low standard of living in comparison to that of the United States. Apologists for the Price System never mention that with our known resources and technological methods of production we have a relatively low standard of living. Once in a while information slips by the outer guard of our 'free press' which does not verify the propaganda put out by those interests trying to maintain the status-quo. By our reprinting this article, you will get an idea of what we mean. If such a project were to be adopted on a large scale, with improvements, in this country or even in Denmark, it would start an 'epidemic' and bring about more social change in our cultural institutions. And speaking of a high standard of living, why is it that the Price System has to destroy its production when there are countless Americans without the necessities of life?).

Who Are Our Allies?

(Continued from Page 12)

four poor islands presents a problem that is even more discouraging than that of Britain. In order merely to survive, Japan requires huge quantities of material from the outside; and, in order to fight as our ally, great quantities of raw materials would have to come from this Continent. Then, there is a serious question whether the Japanese would fight as allies of the U. S. A.; certainly not without guarantees that would be very costly to us. Even so, Japan does not have the potential that she had at the start of World War II, when she possessed Sakhalin, the Kuriles, Manchuria, and numerous Pacific islands. Also, for six years now, the Japanese have not been subjected to military training and ideological flagellation. (The heavy proselytizing by the Roman Catholic Church under Generals MacArthur and Ridgeway introduces an ideology which is not sufficiently familiar and pervasive to arouse the martial spirit nationally.)

Australia and New Zealand are, for the time being, on our side, but that is not assured for the future. The reactionism which we have fostered in those countries is arousing antipathy among many of the people, the same as it is doing in Britain—with the Catholics supporting our cause and the

Protestants rejecting it. Even if Australia and New Zealand were our staunch allies, they are too small and insufficiently developed technologically to be of major assistance to us.

In case our preparations for war culminate in their logical result—our launching an aggressive war against the Soviet Union—it is evident that the United States will have to enter into the fighting from the start and do the major part of it. Our 'allies' will, as in Korea, send only token forces, if they go along with it at all. Even so, the United States will have to equip those forces and then keep our guns pointed at their backs. The cost will be out of all proportion to their contribution.

We are learning the hard way that 'You can't sit down on bayonets.' The more money and arms we pour into world tensions, the more we must continue to pour in, particularly since we are trying to buck the general social trends by supporting the reactionary and unpopular factions, thereby stimulating more tensions.

Many events have taken place since World War II which our officials did not count on and for which they were unprepared in their international policy and diplomacy. Among these are: The 'loss' of Manchuria and China; the turmoil in the Philippines; the independence of Indonesia; the successful struggle against French imperialism in Indo-China; the success of India in maintaining her independence and sovereignty; the defection of Af-

ghanistan, Iran, and Egypt; the growing unrest in the other Mohammedan countries, as well as in black Africa; the sovietization of Czechoslovakia and Poland; the desire among the peoples of Western Europe for peace.

Technocracy deplores the postwar statesmanship of North America, which, following the war, failed to work out a program of amicable relations with the Soviet Union—one oriented toward promoting the peaceful development of the world and the solution of its social problems. Under the guidance of a superior statesmanship, the two countries might have formed an economic and military alliance for the preservation of peace and the efficient development of the world's resources. In contrast, the policy which we as a nation have followed is leading to war and more war, to the maximum destructiveness of the world's resources, and to a lowering of the virility in the human population. In pursuing this course, we are alienating, if not overtly antagonizing, one country after another, and we are ending up with the poorest residue of satellites that the world affords. They are excellent places for dumping our materials and for helping us to maintain scarcity on the North American Continent; but, as fighting allies, they are worse than none at all.

—Techno Critic.

ELECTRONIC CONTROL OF TRAFFIC

LOS ANGELES.—Four lanes of traffic can be accurately counted on a single electronic volume counter recently developed by the University of California's Institute of Transportation and Traffic Engineering in Los Angeles.

One of the unique features of the new device is that it need not be located beside the road, but can be centered in an office many miles away from the roadway detectors, the two being linked together by telephone wires.

Developed by Daniel L. Gerlough, assistant engineer in the Institute, the unit is composed of four electronic circuits which operate four electromagnetic counters. Each circuit can divide by two, the number of axels per car.

The new device was recently proved effective during roadway tests on one side of Los Angeles' Wilshire Boulevard.

'Information obtained by the counter is useful to traffic engineers in studying lane utilization, control needs, congestion and so forth,' said Gerlough.

LESS ARABLE LAND NEEDED

WASHINGTON.—The fact that hybrid corn has helped increase U. S. corn production 25 per cent in twenty-five years is well known. But Dr. M. T. Jenkins of the U. S. Department of Agriculture says that other hybrids have helped with similar increases. Louisiana sugar production, wheat and potato crop gains have been equally spectacular, he says.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946. (Title 39, United States Code, Section 233)

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1. The names and addresses of the publisher, editor, managing editor, and business managers are:

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

THERESE E. BERTOIA,
Business Manager.

Sworn to and subscribed before me this 19th day of October, 1951.

(Seal) W. COOLEY, Jr.

(My commission expires Feb. 22, 1954.)

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continental membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in America by Americans. It is composed of American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic American—you are welcome in Technocracy.

The TECHNOCRAT

Presenting an analysis of news items gleaned from the public press indicating North America's need for planned direction and outlining Technocracy's design for victory over fascism, poverty and insecurity on this Continent.

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